

Amendments to the Claims

Claims 1-7 (Canceled)

Claim 8 (**Currently Amended**) An acid gas scrubbing apparatus, for scrubbing a gas comprising a combustion gas generated by incineration of combustibles or a produced gas generated by gasification of combustibles, the combustion gas or the produced gas comprising at least one of carbon dioxide, hydrogen sulfide, hydrogen chloride, sulfur oxides, and nitrogen oxides, said acid gas scrubbing apparatus comprising:

a gas scrubber for removing acid gases in ~~a the~~ gas, to be scrubbed, ~~containing carbon dioxide~~ by bringing the gas to be scrubbed into contact with a gas scrubbing liquid containing alkaline agent;

a scrubbing liquid regenerator for regenerating and cooling ~~the said~~ gas scrubbing liquid by bringing ~~the said~~ gas scrubbing liquid into contact with a regenerating gas having components different from ~~the said~~ gas scrubbing liquid and ~~the said~~ gas to be scrubbed, and obtaining a gas comprising the regenerating gas into which steam is mixed; and

a circulating system means provided between the said gas scrubber and the said scrubbing liquid regenerator operable to circulate the gas for circulating said scrubbing liquid.

Claim 9 (**Currently Amended**) An acid gas scrubbing apparatus, for scrubbing a gas comprising a combustion gas generated by incineration of combustibles or a produced gas generated by gasification of combustibles, the combustion gas or the produced gas comprising at least one of carbon dioxide, hydrogen sulfide, hydrogen chloride, sulfur oxides, and nitrogen oxides, said acid gas scrubbing apparatus comprising:

a gas scrubber for removing acid gases in ~~the a~~ gas, to be scrubbed, ~~containing carbon dioxide~~ by bringing the gas to be scrubbed into contact with a gas scrubbing liquid containing alkaline agent;

a first scrubbing liquid regenerator for regenerating and cooling ~~the said~~ gas scrubbing liquid by bringing ~~the said~~ gas scrubbing liquid into contact with a first regenerating gas having components different from ~~the said~~ gas scrubbing liquid and ~~the said~~ gas to be scrubbed, and obtaining a gas comprising the first regenerating gas into which steam is mixed;

a second scrubbing liquid regenerator for regenerating and cooling ~~the said~~ gas scrubbing liquid discharged from said first scrubbing liquid regenerator by bringing ~~the said~~ gas scrubbing liquid into contact with a second regenerating gas having components identical to or different from ~~the said~~ first regenerating gas; and

a circulating system ~~means~~ provided between said gas scrubber and said second regenerator operable to circulate the gas for circulating said scrubbing liquid.

Claim 10 (**Currently Amended**) An acid gas scrubbing apparatus, for scrubbing a gas comprising a combustion gas generated by incineration of combustibles or a produced gas generated by gasification of combustibles, the combustion gas or the produced gas comprising at least one of carbon dioxide, hydrogen sulfide, hydrogen chloride, sulfur oxides, and nitrogen oxides, said acid gas scrubbing apparatus comprising:

a gas scrubber for removing acid gases in ~~the~~ a gas, to be scrubbed, ~~containing carbon dioxide~~ by bringing the gas to be scrubbed into contact with a gas scrubbing liquid containing alkaline agent;

at least a three-stage or more of scrubbing liquid regenerator for regenerating and cooling ~~the said~~ gas scrubbing liquid by bringing ~~the said~~ gas scrubbing liquid into contact with a plurality plural kinds of regenerating gases having components different from ~~the said~~ gas scrubbing liquid and ~~the said~~ gas to be scrubbed; and

a circulating system ~~means~~ provided between a final-stage regenerator of said at least three-stage regenerator and said gas scrubber operable to circulate the gas for circulating said scrubbing liquid for the purpose of returning the gas said scrubbing liquid from said final-stage regenerator to said gas scrubber.

Claim 11 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 8, further comprising a gas-liquid separator provided between said gas scrubber and said scrubbing liquid regenerator for separating gas components, to be scrubbed, accompanied by ~~the said gas scrubbing liquid;~~ liquid,

wherein ~~the said~~ gas scrubbing liquid flows from said gas scrubber into said gas-liquid separator, and after gas-liquid separation, ~~the said~~ gas scrubbing liquid flows in said scrubbing liquid regenerator.

Claim 12 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 8, wherein said scrubbing liquid regenerator brings the gas scrubbing liquid into contact with an oxygen-containing gas as the as said regenerating gas of said scrubbing liquid; ~~oxygen-containing gas such as air or pure oxygen is used.~~

Claim 13 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 12, further comprising a gas-liquid separator provided downstream of said scrubbing liquid regenerator in a scrubbing liquid path for separating gas components, to be scrubbed, accompanied by ~~the said gas scrubbing liquid;~~ liquid,

wherein ~~the said~~ gas scrubbing liquid flows from said scrubbing liquid regenerator to said gas-liquid separator, and after removing the gas components accompanied by ~~the said~~ gas scrubbing liquid by gas-liquid separation, ~~the said~~ gas scrubbing liquid flows in a regenerator or a gas scrubber provided downstream of said gas-liquid separator.

Claim 14 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 8, wherein said gas scrubber operates with a gas-phase pressure in said gas scrubber is operated in the range of 80 to 110 kPa, and said scrubbing liquid generator operates with a gas-phase pressure in said scrubbing liquid regenerator is operated in the range of 110 to 200 kPa.

Claim 15 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 8, wherein said gas scrubber brings the gas to be scrubbed into contact with the gas

~~scrubbing liquid having a temperature of said circulating scrubbing liquid is in the range of 50 to 300°C.~~

Claim 16 (Currently Amended) An acid gas scrubbing apparatus according to claim 8, wherein said gas scrubber brings the gas to be scrubbed into contact with the gas scrubbing liquid having a temperature of said circulating scrubbing liquid is in the range of 50 to 200°C.

Claim 17 (Currently Amended) An acid gas scrubbing apparatus according to claim 8, wherein said gas scrubber brings the gas to be scrubbed into contact with the gas scrubbing liquid having a temperature of said circulating scrubbing liquid is in the range of 50 to 100°C.

Claim 18 (Currently Amended) An acid gas scrubbing apparatus, for scrubbing a gas comprising a combustion gas generated by incineration of combustibles or a produced gas generated by gasification of combustibles, the combustion gas or the produced gas comprising strong acid gases and weak acid gases, said acid gas scrubbing apparatus comprising:

a first gas scrubbing section for removing the strong acid gases in the a gas, to be scrubbed, ~~containing said strong acid gases such as hydrogen chloride and weak acid gases such as hydrogen sulfide and carbon dioxide~~ and cooling the said gas to be scrubbed by bringing the said gas to be scrubbed into contact with a first gas scrubbing liquid containing first alkaline agent in a countercurrent flow;

a second gas scrubbing section for removing the carbon dioxide and weak acid gases in the said gas, to be scrubbed, discharged from said first gas scrubbing section and cooling the said gas to be scrubbed by bringing the said gas to be scrubbed into contact with a second gas scrubbing liquid containing second alkaline agent in a countercurrent flow;

a first scrubbing liquid regenerator for regenerating and cooling the said first gas scrubbing liquid by bringing the said first gas scrubbing liquid into contact with a first

regenerating gas having components different from ~~the said~~ first gas scrubbing liquid and ~~the said~~ gas to be scrubbed in a countercurrent flow;

a second scrubbing liquid regenerator for regenerating and cooling ~~the said~~ second gas scrubbing liquid by bringing ~~the said~~ second gas scrubbing liquid into contact with a second regenerating gas having components different from ~~the said~~ second gas scrubbing liquid and ~~the said~~ gas to be scrubbed in a countercurrent flow;

a first circulating system ~~means~~ provided between said first gas scrubbing section and said first scrubbing liquid regenerator operable to circulate the ~~for circulating said first gas scrubbing liquid~~; and

a second circulating system ~~means~~ provided between said second gas scrubbing section and said second scrubbing liquid regenerator operable to circulate the ~~for circulating said second gas scrubbing liquid~~.

Claim 19 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 18, wherein said first circulating system ~~means~~ provided between said first gas scrubbing section and said first scrubbing liquid regenerator ~~for circulating said first scrubbing liquid~~ comprises a chemical adding section operable to add ~~means for adding~~ aqueous solution containing ~~the said~~ first alkaline agent, and a solid-liquid separator operable to separate ~~separation means for separating~~ solid components in ~~the said~~ first gas scrubbing liquid.

Claim 20 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 18, further ~~comprising~~ comprising:

a first gas-liquid separator ~~separators~~ provided between said first gas scrubbing section and said first scrubbing liquid regenerator operable to separate gas components, to be scrubbed, accompanied by the first gas scrubbing liquid; and

a second gas-liquid separator provided between said second gas scrubbing section and said second scrubbing liquid regenerator operable to separate, respectively, for separating gas components, to be scrubbed, accompanied by ~~the said first and second gas scrubbing liquid~~.

Claim 21 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 18, wherein said first scrubbing liquid regenerator brings the first scrubbing liquid into contact with an oxygen-containing gas as the—said first regenerating gas;
oxygen-containing gas such as air or pure oxygen is used.

Claim 22 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 18, ~~further comprising~~ comprising:

a first gas-liquid separator—separators provided downstream of said first—and
second scrubbing liquid regenerator—regenerators in a scrubbing liquid path, respectively,
path for separating regenerating gas components accompanied by the—said first—and
second gas scrubbing liquid; liquid; and

a second gas-liquid separator provided downstream of said second scrubbing
liquid regenerator in the scrubbing liquid path for separating regenerated gas components
accompanied by the second gas scrubbing liquid.

Claim 23 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 18, wherein said first and second gas scrubbing sections operate with a gas-phase
pressure in said first and second gas scrubbing sections is operated in the range of 80 to
110 kPa, and said first and second scrubbing liquid regenerators operate with a gas-phase
pressure in said first and second scrubbing liquid regenerators is operated in the range of
110 to 200 kPa.

Claim 24 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 18, wherein an outlet of said first gas scrubbing section outputs the temperature of
said first gas scrubbing liquid at a temperature—the outlet of said first gas scrubbing
section is in the range of a—the boiling point thereof to the boiling point minus 20°C, and
an inlet of said first gas scrubbing section inputs the temperature of said first gas
scrubbing liquid at a temperature—the inlet of said first gas scrubbing section is in the
range of the temperature of the—said first gas scrubbing liquid at the outlet of said first gas
scrubbing section to the—said temperature of the—said first gas scrubbing liquid at the
outlet of said first gas scrubbing section minus 20°C or in the range of a—the saturation

temperature of steam in the gas to be scrubbed to ~~the~~-said saturation temperature of steam minus 5°C.

Claim 25 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 18, wherein ~~an outlet of said second gas scrubbing section outputs the temperature of said second gas scrubbing liquid at a temperature the outlet of said second gas scrubbing section is~~ in the range of ~~a the~~ temperature of ~~the~~-said first gas scrubbing liquid at ~~an the~~ inlet of said first gas scrubbing section to ~~the~~-said temperature of ~~the~~-said first gas scrubbing liquid at the inlet of said first gas scrubbing section minus 20°C, and ~~an inlet of said second gas scrubbing section inputs the temperature of said second gas scrubbing liquid at a temperature the inlet of said second gas scrubbing section is~~ lower than the temperature of ~~the~~-said second gas scrubbing liquid at the outlet of said second gas scrubbing section by 5°C or more.

Claim 26 (**Currently Amended**) An acid gas scrubbing apparatus according to claim 18, wherein ~~said first gas scrubbing section brings the gas to be scrubbed into contact with the a pH of said first gas scrubbing liquid having a pH in said first gas scrubbing section is~~ in the range of 4 to 11, and ~~said second gas scrubbing section brings the gas to be scrubbed into contact with the a pH of said second gas scrubbing liquid having a pH in said second gas scrubbing section is~~ in the range of 7 to 12.

Claims 27-40 (**Canceled**)